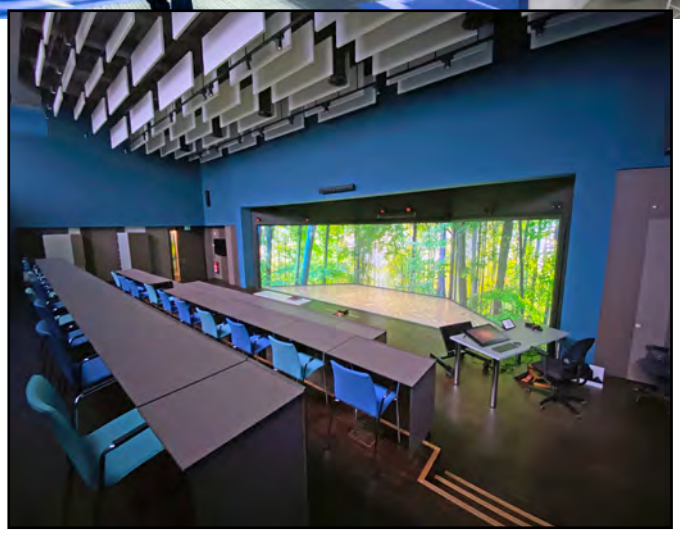
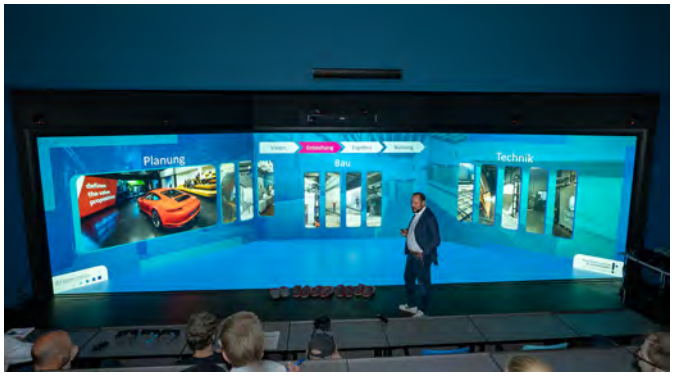




project: syntropy (Germany / Sweden / Shanghai - Singapur - Taiwan) creates technologies and solutions for professional simulation- and training environments, interactive immersive media based attractions, XD theatres, planetariums and multimedia experiences.

Project

XR-LAB - South Westphalia University of Applied Sciences, Iserlohn - interactive 3D CAVE (featuring VR/AR/MR-Technology)



Customer

South Westphalia University of Applied Sciences, Iserlohn/ Germany, Campus Frauenstuhlweg 31, Department of Mechanical Engineering (as final user).

Project

Turnkey high-resolution interactive XR 3D Active Stereo CAVE for the Digital Development Centre (DEC), comprising a five-channel 4k projection for three sides and floor projection. Integration of various VR, AR and MR tracking systems, a VR PC cluster, AV conference technology and a complex media control system for research and teaching.

Project Details

The South Westphalia University of Applied Sciences has created a Digital Development Centre (DEC) at the Iserlohn site - Department of Mechanical Engineering - whose four core areas of the so-called multimodal XR-LAB are a CAVE lab, a 3D CAVE, a VR/AR/MR lab called “Large Space wearable VR” and a conference/meeting room.

We won the public tender for the delivery, installation and system integration of all visualisation, computing and media technology required for the areas (except conference room).

CAVE (Cave Automatic Virtual Environment)

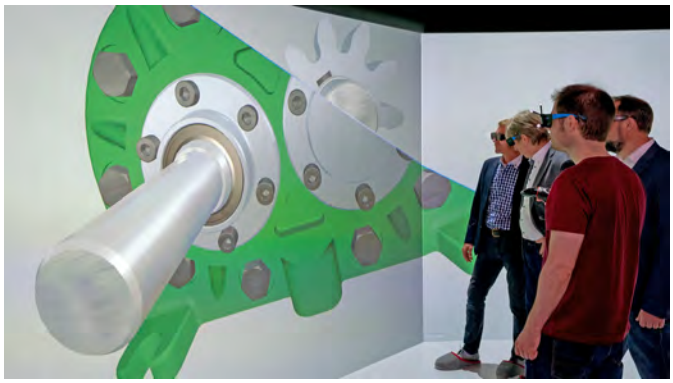
The 10m wide and 3m high trapezoidal 3-sided rear projection CAVE (Barco UDM 4k22) with 2-channel floor projection (Barco UDM 4k15) and IR tracking over the whole area provides the centre of the immersive visualisation environment of the XR-LAB. The flexible user concept supports both research in active stereo VR scenarios supported by a wide range of interactive AR/MR tracking technologies, as well as traditional teaching and even (corporate) events. Lectures and presentations can therefore take place with mono content.

project: syntropy GmbH
D-39112 Magdeburg/Germany, Klausenerstrasse 47
T: +49 (0) 391 63 60 66-44 I Fax: +49 (0) 391 63 60 66-45
M: syntropians@project-syntropy.de http://www.project-syntropy.de

project:**syntropy**

The interaction devices and various mobile (touch-) displays are transportable between the various aforementioned areas and can be used for different purposes. A wireless presentation system allows the integration of a wide variety of input sources, e.g. streaming cameras and microphones.

Special challenges in this project were the implementation of the highly complex, yet intuitively operable media show control with different access rights, high demands on the signal transmission technology, strong noise-reducing measures for the projectors and the careful planning and commissioning of the VR PC cluster, on which various software systems such as IC.IDO, Unity, Unreal and Autodesk must run with high performance. In addition, a media PC was installed that can access all necessary university content and cloud-based services and allows video conferencing.



Large Space wearable VR

In the smaller VR lab, called “Large Space wearable VR” or “glasses room”, different VR and MR technologies such as HTC Vive, Varjo as well as MR input devices, large touch displays and mobile workstations can be used for research and teaching.

With the highly flexible, advanced and technology-open concept of the XR-LAB, the South Westphalia University of Applied Sciences in Iserlohn is now able to research and try out new technologies and applications with students, and to integrate new systems in the future, but at the same time to multifunctionally support classical teaching and hi-end presentations (e.g. virtual product demonstrations).

Turnkey Visual Solutions for Simulation, Training and Media Based Attractions

project: syntropy offers turnkey projection solutions, tailor-made systems and full-service throughout the entire project.

- CONSULTING
- CONCEPT AND DESIGN
  - creative
  - interactive
  - media
  - engineering
  - application
- DEVELOPMENT
- ENGINEERING
- CONSTRUCTION AND INSTALLATION
- AFTER SALES SERVICES
  - training
  - maintenance and support
  - tailored service-level-agreements (SLA)
  - spareparts supply
- MEDIA BASED ATTRACTIONS

XD FLYING THEATRES - XD 360° & 720° ATTRACTION DOME CINEMAS & GLOBES - INTERACTIVE VISITOR ATTRACTIONS - MOTION THEATRES - DARK RIDES - PLANETARIUMS - MEDIA FACADES - IMMERSIVE TUNNELS & IMMERSIVE ENVIRONMENTS - PROJECTION MAPPING - GUN SYSTEMS

- SYNTOUCH MULTITOUCH MULTIUSER & RADAR
- MIXED REALITY ENVIRONMENTS & TRACKING TECHNOLOGY DEVELOPMENT
- VISUAL SOLUTIONS FOR SIMULATION & TRAINING

FMS FULL-MISSION-SIMULATORS - FFS FULL-FLIGHT-SIMULATORS - CT COCKPIT SIMULATORS - HELICOPTER SIMULATORS - TARGET SIMULATION - JFST TRAINERS - JTAC TRAINERS - ATM TOWER SIMULATORS - DRIVING SIMULATORS - SHIPS BRIDGE SIMULATORS - INDUSTRIAL SIMULATORS - RESEARCH SIMULATORS - CAVEs

Leading Provider of Next Generation immersive Mixed-Reality Environments

project: syntropy GmbH
D-39112 Magdeburg/Germany, Klausenerstrasse 47
T: +49 (0) 391 63 60 66-44 I Fax: +49 (0) 391 63 60 66-45
M: syntropians@project-syntropy.de http://www.project-syntropy.de

project:**syntropy**